Ontario

Annual Report 1982 Minister of Natural Resources

Fiscal year ending March 31, 1982

Annual Report of the Minister of Natural Resources of the Province of Ontario

TO HIS HONOUR
The Lieutenant-Governor
of the Province of Ontario

MAY IT PLEASE YOUR HONOUR
The undersigned begs respectfully to present to your Honour the Annual Report of the Ministry of Natural Resources for the fiscal year beginning April 1, 1981, and ending March 31, 1982

Alan Pope

Alan W. Pope
Minister

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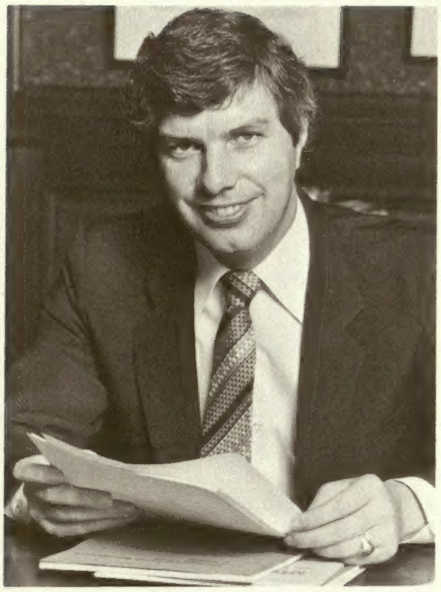
Front cover: MNR nursery manager checks progress of nine-week-old white pine seedlings at the Ontario Tree Improvement and Forest Biomass Institute at Maple, Ont. Seeds were obtained from select trees in Algonquin Park.

Back cover: Technician at the Institute prepares hybrid poplar cuttings which will be "rooted" and then planted in the Maple nursery groves. The tree section in the background is from a 19-year-old hybrid poplar.

All photographs taken by Ministry staff.

Minister's Message



In our last Annual Report, I stressed my Ministry's commitment to provide information to the public and to consult them on all issues of concern. As I review the Ministry's accomplishments of 1981-82, I am pleased that we have maintained and improved our public dialogue, particularly in the areas of land use, parks and forest resources planning.

I find it very encouraging that the private sector, not only resource industries and special interest groups, but also individual residents, has become more and more involved in co-operative programs with this Ministry. The forest industry, for example, took on added responsibilities in preventing and fighting forest fires and utilized Ministry expertise in its training programs for workers.

A spirit of volunteerism became apparent in co-operative fish stocking and stream rehabilitation projects between the Ministry and anglers' and fishermen's groups. We also have a dedicated group of volunteer conservation officers as well as the beginning of voluntary service in the parks area to help ensure a high quality of recreational opportunities. Also mentioned in this report is the help we have received from outdoors groups in maintaining deer wintering areas and moose habitats. And there are many other examples. I'd like to commend those who have become active in co-operative resource management. Help from highly motivated individuals and groups produces tangible results.

The Ministry's main objective is to manage the province's resource base for the greatest benefit of *all* of Ontario's citizens. To do this, we have developed land use strategies for the province which will provide guidelines to integrate policies for all resources. The finishing touches have been applied to the District Land Use Plans and they are going before the public for comment during 1982.

Early in March, 1982, I tabled in the legislature a package consisting of the Task Force Report on Parks System Planning, background comments for District Land Use Planning, a summary of public response to Southern Ontario land use planning and two draft Forest Management Agreements. These demonstrated our thorough approach to identifying all resource use possibilities and our commitment to public consultation in planning for the future.

In these days of economic restraint the Ministry has sought to develop new ways to deliver programs and services, while endeavoring to hold the line on quality. In some cases, we have had to alter timetables and look for longer term results; in others, some truly innovative solutions have been developed.

During the year a number of projects funded by the Board of Industrial Leadership and Development (BILD) Program were initiated. A total of $13.4-million was committed to Ministry projects in 1981-82 by BILD to go toward stimulating exploration and production of minerals; encouraging regeneration and silvicultural work in forestry; and assisting several projects in other resource areas.

We are also concerned with the people who work in our resource industries. Because of the economic downturn, many mining and forestry workers have been laid off. To keep these skilled workers from leaving their communities in search of other jobs, I was able to interest the federal government in a bridging program to put many of them back to work. By utilizing a section of The Unemployment Insurance Act and providing additional provincial and federal funds, we encouraged companies, groups and municipalities to develop programs that would keep these skilled workers in their communities. We will continue to examine opportunities to assist economically stressed resource-dependent areas until the economy recovers.

Our policies will continue to reflect our concern both for the people who are involved in resource industries and for those who eventually benefit from the wise management and use of Ontario's natural resources.

Alan Pope

Alan W. Pope

Deputy Minister's Message

There are many programs in the Ministry of Natural Resources devoted to dealing with the problems that arise when the forces of nature must be reckoned with. We must, therefore, maintain a state of preparedness to deal with these occasions. Forest fires and floods, shoreline erosion, forest-destroying pests, wildlife nuisances and many other types of problems can occur when nature goes awry.

Our excellent state of readiness for the majority of the year's major problems is a tribute to the Ministry staff who planned and carried out everyday tasks.

Though early weather conditions gave every indication of presenting us with as devastating a fire season as that of 1980, we had been voted $4.5-million in extra funds and were able to use the money to prepare for this possibility. As a result, the fires of 1981 caused much less damage than those of the previous year. During the 1981 fire season, a total of 1,656 fires burned 179,473 hectares compared to 1,779 fires and 558,468 hectares burned in 1980.

We were also fortunate in the early spring when nature co-operated and did not send several predicted deluges of rain during ice break-up in the south. Thus, the possibility of severe flooding was averted. During that time, the Ministry's Streamflow Forecast Centre kept district offices, conservation authorities and municipalities supplied with daily bulletins on flood potential. This centre is scheduled to have a completely computerized flood forecasting system in operation across the province to deal with the 1983 season.

Several major flood control projects in various stages of construction in both Northern and Southern Ontario will, when completed, protect people and property in these areas from flood damage.

Noteworthy developments during 1981-82 were the signing of three more Forest Management Agreements; a BILD program to stimulate the exploration for, and development of, industrial minerals; the release of a discussion paper on wetland policy; the development of new methods for using satellite imagery in resource planning; and greater public involvement in parks, land use and resource planning.

I would like to thank those of you who wrote to me last year with comments on the changed look of our Annual Report. Your positive response and enthusiasm made me aware that we share a pride in this Ministry and a commitment to the wise use of our resources.

W. T. Foster

W. T. Foster

Lands and Waters Management

Strategic Land Use Plans

Our province-wide land use planning exercise is a first for Canada. We believe it is also the most comprehensive public consultation program of its kind anywhere in the world. The three Strategic Land Use Plans for Ontario provide a framework that encompasses policy and strategies to ensure that land, water, forest, fish, mineral, wildlife and park resources are managed for maximum public benefit. Through consultation with the public and various interest groups in 1981-82, Ministry officials have been striving to get balanced consideration of all resource uses within a policy of multiple-use land management and to give due consideration to all elements in the land use equation. District Land Use Plans were being prepared to be presented for public input before the end of the summer of 1982 through a series of "open houses" across the province. The public will be invited to review proposals and contribute to their development and implementation.

Task Force on Parks System Planning

Because land use plans must take into account the need for various types of provincial parks, a special Task Force on Parks System Planning was established in 1981. A report prepared by this group, released early in 1982, contains guidelines that allow for full consideration of park options in the planning process.

A balance is being sought between parks' needs and other resource objectives such as forest management and mining. Some 240 candidate provincial parks, containing significant natural, cultural and recreational environments, were identified. Where curtailment of existing or potential resource production would create community economic problems, other uses will be allowed as long as they do not have a negative effect on the parks' long-term values. Again, balance is the key management concept.

Left: MNR's computerized flood forecast system will make it easier to pinpoint potential danger from rain storms, melting snow and ice.

Land Information Organized and Managed in New System

The development of a geographical referencing data base system continued in 1981-82. This is a framework for the orderly storage, management and retrieval of land mass information. Work continued on research and development of the basic concepts for a computer-supported system for storage, processing and retrieval of information. Still to be completed is the design and development of a system that can be used throughout government to provide faster, more efficient information exchange. The Ontario Basic Mapping Program will provide the topographic information necessary for the provincial geographical referencing system and will assist the private sector.

Township Boundary Re-establishment Program Nearly Complete in Southern Ontario

Land-owners, resource industries and resource managers all share a concern about the lack of clear-cut boundaries in many townships. In some cases the boundaries were destroyed by forest fires; in others, the age of the original township surveys, particularly in the less settled parts of the province, makes the boundaries suspect. A long-term program introduced 20 years ago to resurvey those township boundaries which have not been updated by settlement or development will be completed in Southern Ontario in 1982.

Re-establishment is centred on township boundaries on the Canadian Shield where lack of agricultural use of land meant there was little road or fence construction.

Last year, 405 kilometres of township boundaries were resurveyed across the province, bringing the total to 8,375—4,375 in Southern Ontario and 4,000 in the North.

Mapping Ontario Resources From Satellite Data

During the year, the Ontario Centre for Remote Sensing (OCRS) finished developing its computerized system--the first of its kind in Canada--to produce color-coded hard-copy maps from computer analysed satellite data. This mapping system was used to produce resource maps of larger regions of the province, providing information on northern forest resources and on types of land use, as well as the most accurate and comprehensive information available on Ontario's peat resources.

The new mapping system will allow data from satellites to be much more widely applied to resource management programs and will assist investment decision-makers in the private sector.

Aerial Photography Tells if Forest Regeneration is Working

To tell how forest regeneration is progressing, the conventional method relies on data gathered by ground survey five to seven years following seeding or planting. A program introduced last year makes it possible to use color infrared aerial photography to monitor reforestation efforts much more quickly.

Three scales of photography are obtained, one for initial stratification of the treated area, the other two for the detailed sampling of tree stocking and density, using specially designed template overlays. Additional information on forest conditions, such as location of frost kills, can also be obtained from the photography. The technique is cost-effective, rapid, more thorough than the previous method and is an aid to improved reforestation.

New Public Access to Lake Ontario

Since 1971, approximately $3-million has been invested to acquire lands, to help stabilize a portion of actively eroding shoreline, and to develop a variety of recreation facilities serving the needs of residents of the Niagara Peninsula, the Hamilton-Wentworth Region and tourists using the Queen Elizabeth Way corridor. To date, picnic facilities, fishing ponds, a beach area, education/interpretation facilities, parking areas and campground services have been developed. In addition, the Hamilton Region Conservation Authority is developing a small-craft mooring basin to meet the ever-increasing demand for boating facilities on Lake Ontario. Funds estimated to complete the Fifty Point Development are set at approximately $2.6-million.

Watershed Management Advisory Board set up to Reduce Flood-Related Damage to Life and Property

Long susceptible to flooding and property damage, the Sturgeon River/Lake Nipissing/French River system has been the subject of study, public meetings, workshops, and information sessions in North Bay, Sturgeon Lake and Noelville.

A most important recommendation resulting from the Watershed Study and the public participation sessions, was to create a Watershed Management Advisory Board to report to the Minister of Natural Resources. The members of this board were appointed early in 1982. Other action was undertaken in 1981-82, including installation of water-level gauges, improvements to the flood forecasting system and to the operation of the Lake Nipissing outlet control dams, and relocation of the community of Field. Detailed mapping of flood-prone areas in the watershed is in progress, to be completed next year.

Dyke System Holds Back Saugeen and Teeswater Rivers

Some 160 kilometres north of London lies the village of Paisley, for years prone to severe annual flooding from the Saugeen and Teeswater Rivers and Willow Creek. Following the 1977 flood, which inundated the entire downtown business section, the Saugeen Valley Conserva-

tion Authority, at the village's request, undertook a flood control study. A system of dykes along all three watercourses, when completed, will maximize flood level protection over the developed 81 hectares of the village with minimum disruption to existing land uses. Some 500 people and $6-million worth of buildings and land are expected to benefit from the project, now estimated to cost $1.2-million. During 1982, the first phase of the dyking project was completed, providing regional storm flood protection from the Teeswater River.

Three Thousand Homes Saved from Flooding in Thunder Bay

During 1981-82, work continued on the Neebing-McIntyre diversions at Thunder Bay, to be completed in 1984.

These will minimize the effect of flooding caused by inadequate channel capacity on the Neebing and McIntyre Rivers. The diversion will also eliminate most of the spring flooding in the inner-city area of Thunder Bay. Without the diversions, it is estimated that a storm could cause main floor flooding in 1,000 homes, with basement flooding in an additional 3,000 homes. In addition, much of the commercial and industrial area in the mid-city core could also suffer flood damage.

Streamflow Forecast Centre Warns of Flood Danger

By the end of next year, a computerized flood forecasting system will be in operation across the province. It will use water data from Weather Office teletype lines, precipitation and streamflow inputs from the field, and radar precipitation data to run the National Water Service River Forecast model.

The Forecast Centre now has five per-

Left, and above: Working in all conditions, MNR constructs resource access roads in Northern Ontario—611 km of roads were built in 1981-82. Access roads provide many benefits.

manent staff and is supported by 145 hydrometric stations. Test calibrations have been done on the Conestoga River and Medway Creek to assist in the software development from streamflow forecasting. Twelve data collection platforms in Northern Ontario provided streamflow and hydrometric data for the spring, 1982, run-off.

Public to Participate in Shore Zone Management

Water management activities are directed to reducing flooding and erosion damage along the Great Lakes shores. This is done through public awareness programs and by providing information on flood and erosion-susceptible areas.

In 1981-82, a publication, *Canada/Ontario Great Lakes Shore Management Guide*, was available to assist municipalities and Conservation Authorities in planning for reduction of damages due to flooding and erosion. The booklet also designates shore uses to provide the best overall public benefit without disturbing sensitive ecosystems such as wetlands.

The Ministry has also completed its *Great Lakes Shore Process and Shore Protection*, a publication that provides general engineering advice on shore protection. The public is encouraged to use both publications, through a series of information and training programs.

New Sites for Hydroelectric Power

With funding provided by the Ministry of Energy, a consultant was retained by the Ministry of Natural Resources in 1981-82 to prepare a manual for assessing the potential for hydroelectric energy at existing dam sites. Regional engineers also started an inventory and evaluation of energy potential at numerous sites. When the work is completed in 1984, the most promising sites identified will be offered for development to interested parties.

Above: Construction stage of floodway portion of Neebing-McIntyre diversion project at Thunder Bay—to be completed in 1984.
Right, below: Reconstruction of the Memorial Avenue Bridge in Thunder Bay—also part of the diversion project which will protect homes and businesses from flooding.

1981-82 Lands and Waters Program Highlights

- In the Ontario Basic Mapping Program, 1,100 maps were produced in 1981-82, bringing the total to 2,800 maps produced since the program was initiated in 1978.
- Some 240 potential park candidates were identified.
- The Canada-Ontario Flood Damage Reduction Program invested more than $1.5-million in 22 flood-risk mapping projects, which were done in conjunction with the federal government and Conservation Authorities/Municipalities.
- The township boundary resurvey program added 405 kilometres last year to bring the total to more than 8,000 kilometres of boundaries resurveyed to date.
- Through MNR's resource access program to open up Northern Ontario, 611 kilometres of roads and three major bridges were constructed at a cost of $11.2-million.

Left: Many methods and materials are used to stabilize stream banks against erosion.

Forest Resources Management

Rural Land-owners Queried Regarding Land Use and Woodland Management

An extensive and comprehensive survey of rural private land-owners throughout the province was undertaken during 1981-82. The Ministry's Forest Resources Group was partnered in this project by the Great Lakes Forest Research Centre of the Canadian Forestry Service in Sault Ste. Marie. The project was supported by the Ontario Forestry Association. Questionnaires were mailed late last spring to some 12,400 rural land-owners, representing five per cent of the land-owners holding 50 or more acres in Southern Ontario and 10 per cent in the North. Respondents were asked to describe their property and answer questions relating to general land use and specific woodland management activities. About 76 per cent of the questionnaires were returned and were then analysed. The report of this survey, entitled *Rural Lands and Landowners of Ontario: A Private Land Forestry Perspective,* will be tabled shortly and released for public distribution.

Several of the more significant findings of the survey are as follows:

- The survey response rate of 76 per cent suggests an awareness and concern by Ontario rural private land-owners for land use and management of their property.
- There is quite a rapid rate of ownership turnover, which must be considered in the design of private land forest management programs.
- An overwhelming majority of private forest land-owners in Ontario hold forest property for primary reasons which are not related to monetary or material gain.
- Most rural landholdings contain some amount of woodland, but the acreages tend to be relatively small, particularly in Southern Ontario.
- A large majority of the current woodlot owners have not harvested forest products from their woodland for commercial purposes.
- Non-resident ownership is uncommon among Ontario's rural land-owners.

Roads to Resources

In 1981-82, close to $10-million was spent under the DREE Forest Management Subsidiary Agreement on forest access road and bridge construction for more than 20 different projects across Northern Ontario. The FMSA program is accelerating the development of the forest access road network on Crown and Company Management Units throughout the boreal forest in an effort to increase the volume recovery from mature and over-mature forest areas and to enhance the implementation of modified harvesting systems. An expanded forest access road network will also be of significant benefit to other Ministry programs such as forest fire management, outdoor recreation and mineral exploration. Roads are now planned to take local and tourism needs into consideration.

Employment Bridging for Laid-off Forestry Workers

In February, 1982, in response to the serious unemployment situation in the forest industry, the Minister announced the introduction of a program to provide temporary work in resource management projects for forest workers. Taking advantage of a section of The Unemployment Insurance Act, the program provided provincial and federal funds in addition to the basic unemployment insurance payments for forest workers. Projects under this Accelerated Forest Improvement Program were supported by the Canada Employment and Immigration Commission and the Ontario BILD program. (BILD is an On-

Left: Private woodlot owners can receive advice from MNR experts on woodlot management.

tario Cabinet Committee which consolidates and co-ordinates implementation of the government's economic development strategy.)

As a result, forestry-dependent communities could retain their skilled workers, maintain payrolls, and sustain their communities' social and economic vigor. The program allows forest industry companies to recall laid-off employees for the purpose of undertaking expanded forest management and related resource activities. The companies develop proposals in concert with MNR and, when approved, re-employ a core of these skilled workers.

Three Forest Management Agreements Signed During 1981-82

Development of Forest Management Agreements (FMAs) continued during the year. These agreements provide for the integration of harvesting and regeneration by a company and the undertaking of all silvicultural work--site preparation, regeneration and tending. Silvicultural treatments are paid for by the Ministry, at its cost for equivalent work.

In 1981, three new FMAs were signed. These were for the Spruce River Forest with Abitibi-Price Inc., the Black River Forest with Q.N.S. Paper Company Limited (Ontario Paper Company) and the Nipigon Forest with Domtar Inc. There are now eight FMAs with six companies covering an area of 49,948 square kilometres of productive forest, or 31.2 per cent of the productive forest area under licence to the nine pulp and paper companies operating in Ontario.

A company with an FMA is responsible for preparation of management, operating and annual plans, subject to approval by the Ministry. Both the management and operating plans must undergo a public review. Beginning in 1981, the definition of candidate FMA areas and, in particular, the exclusion of portions of the area because of incompatibility of other uses with forest management, involved public participation and took place within the context of the Ministry's land use planning program.

Forest Utilization Practices Review Committee

On March 12, 1982, The Honourable Alan W. Pope established a joint committee of industry and government entitled the Forest Utilization Practices Review Committee. Mr. I. D. Bird, General Manager of the Algonquin Forestry Authority, was appointed Chairman. The objective was to assure that all possible efforts will be made to utilize our existing forest resources efficiently. The committee's terms of reference included reviewing the current definitions and classifications of wasteful practices, examining penalties and procedures applicable to inadequate utilization, assessing the impact of utilization practices on wood supply and reviewing definitions, procedures, incentives and penalties of other jurisdictions.

Meetings were held with the Ontario Forest Industries Association, Ontario Lumber Manufacturers' Association, Ministry field staff from both Southern and Northern Ontario and with Ministry staff from head office. A report was prepared and forwarded to the Minister.

Pests Pose Perennial Protection Problems

In 1981, the spruce budworm maintained its long-established reputation as the number one pest of coniferous forests in Ontario, even though there was a general decrease in the gross area of infestation (particularly in the southern half of the province). Over 18 million hectares remained infested, and tree mortality associated with budworm activity continued to increase. Aerial spraying was carried out at a number of locations in Parry Sound, Gogama, Kapuskasing, Hearst, Temagami, Kirkland Lake and Chapleau districts. Bacterial, chemical and viral insecticides were applied to 10,233 hectares of designated commercially operable and high value forests, including spruce plantations and seed production areas, a wildlife management area and a provincial park. The objective and tactics of spraying in seed production areas were changed to include protection of reproductive buds rather than preservation of vegetative growth only. The MNR spray program used federally-approved pesticides and application was done by licenced personnel. All areas to be sprayed were posted and the public was notified in advance through the media.

The advent of the gypsy moth into the Tweed district posed a new threat to the welfare of hardwood forests in Eastern Ontario. About 1,500 hectares of mixed forest were severely infested by this voracious defoliator of a wide range of both broadleaved trees and conifers. Success in controlling the spread of this pest will require co-ordinated efforts with private and municipal control programs.

On the brighter side, co-operative pro-

Far left: Pest control staff examine grids for spruce budworm predator eggs sprayed by helicopter during experimental budworm control program.

Above, left: As spruce budworm moths emerge from larval stage, researcher releases them for use in experimental study.

Above: From 1972 to 1980, Ontario fuelwood consumption increased from 318,000 full cords annually, to more than 1.1-million cords.

Below: Forestry technicians indentify boundaries of private woodlot.

grams for early detection of the destructive European strain of *Scleroderris* canker indicate this disease is not yet established in Ontario. Concentrated surveys of plantations two hectares or larger having red pine in their composition were conducted in the Eastern Region. Samples collected from suspect trees were cultured at the Great Lakes Forest Research Centre. Annual surveillance will be continued to ensure infection centres are located and remedial measures instituted before widespread tree mortality occurs.

The Ministry also supervised the aerial spraying of herbicides over 10,774 hectares in the province. The purpose of this program is to release young coniferous growing stock from competing vegetation.

New Institute to Focus on Fast-growing Tree Species

During 1981-82, provincial forest research at Maple and its associated field units were reorganized and renamed the Ontario Tree Improvement and Forest Biomass Institute. The Institute will benefit from a five-year budget of $4-million from BILD funds, in addition to funds from within the Ministry's research budget.

Particular emphasis is being placed on the breeding and productivity of fast-growing species. Associated ecological and physiological studies contribute to understanding how these species can best be regenerated and grown. These programs will continue to build on the knowledge gained during over 40 years of research at Maple.

Test Tube Trees

A revolution in tree improvement programs may come about through cell or tissue cultures, in which new plants are developed. Poplar plantlets, for example, can be grown in test tubes from the anthers of the flowers, using special techniques. These plantlets can then in turn be multiplied. At the cellular stage, it may be possible to produce new hybrids with desired characteristics. However, much has to be done to develop the methods that are suitable for each species or clone, and, of paramount importance, to ensure that the plants produced through these techniques will survive and perform well under field conditions.

FMA Agreements Create Need For Increased Seedling Production

With the signing of the first FMAs, an unexpectedly high demand for container seedlings became evident. The most rapid means of expanding production capacity was through the private sector and by mid-winter, 1981-82, six agreements for container seedling production had been completed with private growers in the Northern and North Central Regions. These agreements allowed for a 50 per cent payment of the capital cost as construction began and for a five-year commitment to purchase seedlings. When peak production is under way, these six growers will be producing some 20 million seedlings annually, which is equivalent to the existing capacity of Ministry facilities. Over the next few years, a further expansion is planned for both the private sector and Ministry greenhouse facilities to meet additional FMA and Ministry needs.

Ministry of Energy Funds Several Forest Resource Programs

During 1981-82, the Ministry of Energy and MNR co-operated to enhance our fuelwood program, to promote research in tree-breeding and to explore the energy potential of hybrid poplar clones. The fuelwood enhancement program consists mainly of thinning and stand improvement to furnish volumes of fuelwood and the creation of public access to it. Public auctions have been held to provide local residents with fuelwood supplies. In order to augment our regular program of tree-breeding research, the preparation of seed orchards has been undertaken. Increased growth and yield are the vital long-term objectives of this program. The energy values among fast-growing hybrid poplar clones differ and the Ontario Tree Improvement and Forest Biomass Institute, as part of its research program, is studying the factors that play a role in determining these differences. New hybrids that are ideally suited for use in energy plantations will be produced.

Above: Red pine plantation.

Right: Taking samples for a pollination study. For more than 40 years, forestry research has been under way at Maple, Ont., where the new Ontario Tree Improvement and Forest Biomass Institute is located.

1981-82 Forestry Program Highlights

- More than 17 million cubic metres of timber were harvested from Ontario's Crown lands, yielding stumpage revenues in excess of $42-million.
- Our nurseries produced 86 million trees.
- Under the Forestry Act, over 110,000 hectares of Agreement Forests were managed.
- The Ministry supervised the aerial spraying of herbicides and insecticides over 10,744 hectares in the province.
- By March 31, 1982, eight Forest Management Agreements were in place, covering about 50,000 square kilometres, or 31 per cent of the total area under licence to the pulp and paper companies.
- Through Ministry facilities and private greenhouses under contract, the Ministry in 1981-82 produced 30 million container seedlings plus 72 million bare root seedlings.

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Mineral Resources Management

OGS Mapping Program Continues the Search for Mineral Potential

Work continued in 1981-82 on the Ontario Geological Survey's program of examination, study and analysis of the surface and below-surface mineral resources of the province. In summer, 1981, 58 field survey teams (51 the previous year) examined and analysed the land's surface to further our knowledge of where mineral resources occur or may best occur.

As in past years, most of those employed on these summer surveys were university students. In 1981, 133 students furthered their geological education by working on surveys managed by the OGS. Examination of Ontario's Precambrian rocks will be needed for years to come, since only seven per cent of the province has been mapped to modern standards of detailed scale.

Geological surveys produce information for two major user groups. The mineral exploration industry uses this data to assist in its search for metals, construction materials, industrial minerals and energy materials, and land use planners use it as a planning aid.

Detailed summaries of all last year's OGS field surveys are contained in *MP 100, Summary of Field Work, 1981*, which was published in December, 1981.

Mineral Resources Publications Popular Success Last Year

To provide a current view of the geology and of the factors affecting mineral development in Ontario, a number of studies and analytical reports are issued each year by MNR staff. Reports, studies, papers and statistics on minerals and market conditions are produced to maintain up-to-date background information for government, industry and universities.

Below: Forums such as the silica conference of January, 1982, provide government and industry with opportunity to share new ideas.

Left: Every year the Ontario Geological Survey hires students for the survey teams investigating Ontario's mineral potential.

Examination of Ontario's mineral resources and their production in relation to world developments and trends assists in the creation of sound policies, which incorporate necessary technological, environmental and economic factors to maintain the health of our mineral resource sector.

During 1981-82, some 310 publications on the geology and mineral resources of Ontario were published. These include: 45 colored maps; 130 preliminary maps; 17 geophysical maps; 81 studies, circulars, reports, papers; and 37 Open File Reports.

Mineral Policy Background Papers were released in 1981-82 on uranium and gold, as was an econometric and simulation approach to the world markets for copper, aluminum, nickel and zinc. Interest in the econometric and simulation approach resulted in two seminars for industry and government analysts. The publication *Gold,* received favorable book reviews and had considerable popular appeal. Only a few copies remained unsold at year end.

The 338-page *1981 Ontario Mineral Score* was obtained from a laser printer directly linked to our computer. Distributed to companies, governments and other sources interested in mineral statistics, it contains dozens of analyses. Included are: costs of production, geographical analyses of Ontario production from 1975 to 1980, estimates of 1981 production for Ontario and Canada, a graphical anaysis of production and a calculation of Ontario's standing in the world.

Ontario Mineral Exploration Program

The Ontario Mineral Exploration Program (OMEP) continued to provide economic stimulation to encourage mineral exploration. In the 1981-82 fiscal year, 54 OMEP-assisted programs were completed with total exploration expenditures of $7.3-million and eligible expenditures of $5.6-million. This resulted in disbursements of $1.4-million in grants or tax credits. OMEP-designated programs under way represented a total expenditure of $26.2-million and $5.2-million in grants and tax credits last year. During the year, the OMEP regulation was amended to allow a maximum $500,000 grant and/or tax credit for any one designated program. The previous limit was $250,000. It is now also permissable to have a property consisting of non-contiguous claims designated, if they are geologically related.

Mining Tax

The Mining Tax is a tax on profits derived solely from the operation of mining. It is the job of the Mine Assessor to appraise the value of the mine output at the "pit's mouth" in order to assess the tax payable. The tax provides the people of Ontario with a share in the mineral wealth of the province, while providing incentives to mineral producers to make greater financial investments.

In spite of the depressed state of the mining industry, $55-million of mining tax revenue was collected last year. Assessments on mining operations totalled 48, three more than for the previous year. The major change occurring within the Mining Tax Section was the installation of electronic data processing equipment at year end.

Ontario Geological Survey Special Projects

In addition to its regular program of field surveys, the OGS managed several special projects with funds provided by other agencies. These specially funded projects resulted in 23 field survey programs during the year.

Eight projects were carried on under the Southern Ontario Geological Survey (SOGS) Program, which is jointly funded by the Ontario Ministry of Natural Resources and the federal Department of Regional Economic Expansion (DREE) under the Eastern Ontario Subsidiary Agreement.

Eight projects were also funded by the Ontario Ministry of Northern Affairs through the Northern Ontario Geological Survey (NOGS) Program.

Surveys were also undertaken as part of the Kirkland Lake Incentive Program (KLIP), a project equally funded by DREE and the Ontario Ministry of Northern Affairs under the Community and Rural Resource Development Subsidiary Agreement.

Field mapping, funded by the Ontario Ministry of Northern Affairs through the Regional Priority Budget Program, was completed last year for planning areas surrounding four Northern Ontario urban areas. A total of 31 townships were surveyed for aggregate resources.

The last special project undertaken during the summer of 1981 was an investigation of the industrial minerals of the Cargill Carbonatite. This project was funded by the Ontario Ministry of Northern Affairs under the Northern Industrial Minerals Studies (NIMS) Program.

The search for precious metals, especially gold, resulted in more than 81,500 claims being held in good standing in 1981-82. This is the highest number of claims held since the staking rushes associated with the mineral discoveries at Kidd Creek and Sturgeon Lake in the 1960s. Assessment work activity was especially strong—total work submitted to the mining recorders increased 86 per cent to more than 1.6 million days of mineral assessment credit.

Interprovincial Mapping Project

A joint project between the Ontario Ministry of Natural Resources and the ministère de l'Energie et des Resources Québec to prepare a geological map of the Abitibi Subprovince—a significant metal-rich volcanic-sedimentary belt—was undertaken last year. A manuscript map, to be published at a scale of 1:500,000, has been compiled, terminology has been agreed upon, and preparation for printing has begun.

When this co-operatively produced map is published, it will form part of a special report on the Abitibi Subprovince to be published through the Geological Association of Canada. It will also be available separately.

BILD Programs Assist in Several Areas of Mineral Exploration and Development

The Board of Industrial Leadership and Development (BILD) continued implementation of several mineral exploration and research programs.

The first custom gold mill (GOMILL) agreement was signed in March, 1982. Under this agreement, BILD will provide an interest-free forgiveable five-year loan for a gold mill and testing facility at Beardmore to serve the surrounding area as far east as Longlac. Establishment of such GOMILL projects—more are expected to be announced in the coming year—provides a service to mining entrepreneurs who cannot build their own mills because they do not have sufficient capital or volume of proven ore.

Left: MNR provides many services to Ontario's mining industry such as research assistance and the Ontario Mineral Exploration Program (OMEP).

Above: Member of OGS survey team plots exact location of rock outcrop.

Below: After a day spent in the field, survey team member spends evening examining rock samples.

Development of industrial minerals was aided by the initiation in December, 1981, of the Small Rural Mineral Development Program. This program grants up to 25 per cent of approved capital costs for projects involving phosphates, silica, talc, potash feldspar, magnesite, mica, whiting, barite, kaolin, and certain building and ornamental stones.

A silica seminar was organized to stimulate industry to produce more Ontario silica, and background papers were prepared for distribution on the industrial applications and industry status of shale, nepheline syenite, silica, feldspar, and kaolin.

Selected core from exploration drilling is to be stored in core storage libraries funded by BILD and built at various locations across the province. Site investigations were performed at several locations during the year and construction of the first Northern Provincial Drill Core Library should take place soon in the Kirkland Lake-Swastika area. The $500,000 facility, one of several proposed for Northern Ontario, will store and catalogue regional drill core which will be available to mining companies, prospectors and geologists. The aim of the program is to reduce the cost of mineral exploration by providing a permanent record of geological information—which reduces the need to re-explore and re-drill specific areas of geological interest.

In 1981-82, work was started on all three components of the BILD Hydrocarbon Energy Resources Program. This is a program to assess the potential of Ontario's lignite, peat, and oil shale resources and thereby encourage private sector development to improve the province's level of energy self-sufficiency.

Peat was highlighted by a successful international symposium called "Peat—An Awakening Natural Resource" at Thunder Bay in October, 1981, which attracted 250 delegates.

The Moneco report on *Evaluation of the Potential of Peat in Ontario,* published in connection with the symposium, is already in its second printing. The peat inventory program began with mapping of selected areas of Northern Ontario using the satellite-based imagery from the Ontario Centre for Remote Sensing.

A permanent staff geologist was hired to oversee the oil shale studies, and preparation of thickness and structural contour maps of oil shale formations was begun. A drilling program to obtain subsurface samples of potential oil shales was conducted between December, 1981, and March, 1982. Drilling was carried out in the Collingwood, Little Current, Ottawa, Pickering, Toronto, King City, and Shelburne areas.

The Exploration Technology Development Fund was initiated by BILD in 1981 to foster a program of mission oriented research in mineral exploration technology. The fund is intended to encourage the advancement of exploration geophysical and geochemical techniques.

Increase in Assay Determinations in Geoscience Laboratories

The Geoscience Laboratories provide analytical and mineralogical support to the programs of the OGS. Assistance is also offered to prospectors and developers as required by The Mining Act. Fees are charged for outside work according to a schedule which is revised annually to avoid competition with private laboratories.

Below: The Minister of Natural Resources, Alan Pope, tours plant facilities of the first GOMILL agreement signed in March, 1982.

Right: Funded by the BILD program, custom gold milling provides a service to smaller mining companies.

1981-82 Mineral Program Highlights

- Total estimated value of mineral production, to be assessed under The Mining Tax Act, was nearly $4.3-billion and realized a tax revenue of $55-million.
- Under the Ontario Mineral Exploration Program (OMEP), 189 applications were received for a total planned expenditure of $40-million for exploration purposes in the province.
- A total of 106 geoscience reports and 192 geoscience maps were produced by the Ontario Geological Survey.
- The Ontario Geological Survey managed 34 regular field survey projects and 24 field crews on behalf of other agencies.
- Six special joint survey programs funded by MNR in partnership with various other government agencies (such as the Ontario Ministry of Northern Affairs and the Canada Department of Regional Economic Expansion) received $3.3-million last year.
- Ontario produced 37 per cent of all metallic mineral production and 36 per cent of all structural materials in Canada last year.
- Expenditures by the mineral exploration industry for Ontario during the year were an estimated $67-million.

Of the 86 known stable elements, 69 are determined in geological materials at the Geoscience Laboratories. These elements range from major components of rocks and ores (such as silicon and iron) to trace components of rock, soil, water and vegetation samples (such as arsenic and gold).

In addition to providing a wide range of mineralogical and element analyses, scientists in the laboratories continue to develop procedures to improve the quality, range and efficiency of analytical data production. A new method for the determination of selenium in rock was developed. Contributions were also made to several reference material certification programs and quality control studies. The laboratories are equipped with up-to-date analytical instrument systems including simultaneous, multi-channel, computer-controlled X-ray fluorescence and argon-plasma optical-emission spectrometers.

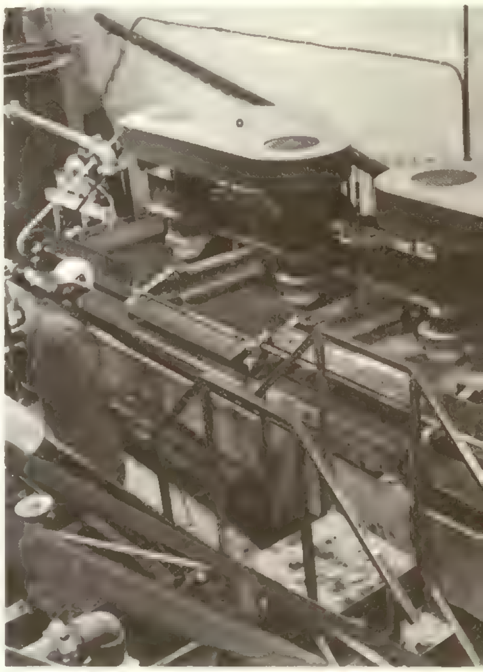
Output rose to 162,000 determinations, an increase of seven per cent over the previous year. Most significant was the increase in assay work which rose from 8,000 to 17,000 determinations.

Industrial Minerals

Various changes were made during the year to the proposed Aggregates Act—legislation to strengthen the regulation of the operation and rehabilitation of pits and quarries. The proposed Aggregates Act is expected to receive legislative approval during 1983. Much effort was also directed to preparation of a draft Mineral Aggregate Resource Planning Policy. Such a policy will provide a framework for municipal planning of aggregate resources and will complement The Aggregates Act.

A background paper, *Ontario Industrial Minerals,* was prepared during the year for publication in April, 1982, to provide an overview of the existing production and potential of industrial minerals in Ontario. A study of the short-term demand for mineral aggregates in Ontario was completed, and a medium and long term demand forecast study begun. Also during the year, 21 additional Aggregate Resources Inventory Papers (ARIP) were published by the Ontario Geological Survey.

During the summer and fall of 1981, eight tours of pits and quarries were conducted jointly by MNR and the Association of Counties and Regions of Ontario for municipal representatives. These tours were presented to inform and promote discussion with local politicans and municipal planners about mutual concerns and solutions related to pits and quarries and planning for mineral aggregate resources.



Geoscience Research Grants

Since 1978, the Geoscience Research Grant Program of the OGS has been awarding funds to universities for research projects that will be of interest and aid to mineral explorationists and developers. In 1981, grants totalling $418,289 were awarded to nine universities for 21 research projects. These grants support projects of up to three years' duration. Papers summarizing the research performed, along with various OGS papers, are presented each December at the annual Geoscience Research Seminar in Toronto.

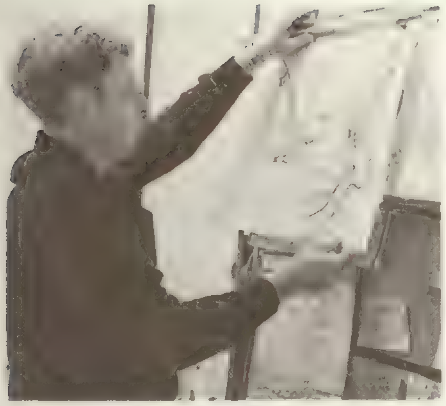
Aviation and Fire Management

The 1981 Fire Season: We Were Prepared

As a result of the extensive losses caused by the 1980 fires, an additional $4.5-million was allocated to forest protection for the 1981 fire season. The additional funds were applied to the fire control systems that contribute to reducing fire incidence, early detection and effective and sustained attack. This enlarged fire suppression capability made it possible to hire an additional 30 unit crews for a total of 175 and to extend contracts. It was also possible to increase the amount of fire suppression equipment across Northern Ontario.

Heavy waterbombing capability was increased by adding four Canso aircraft (making a total of nine), and including bird-dog capabilities. Helitack capabilities were augmented with extended contracts and the addition of seven helicopters. As well, three De Havilland Twin Otter waterbombers were purchased and made ready for the 1981 season. The provincial waterbombing fleet now consists of five Twin Otters, 15 Standard Otters and 14 Turbo Beavers. The aircraft were dispatched throughout the province as soon as ice conditions improved enough to allow access to inland lakes. During periods of low fire incidence throughout the season, these aircraft carried out other ministry and government projects. The Ministry operated two King Air, one Twin Otter and one Turbo Beaver for government business purposes in 1981-82.

A fire load analysis for the spring fire season indicated an over-winter precipitation distribution of 40 to 60 per cent of normal, west of Lake Nipigon. This information, coupled with predictions from the federal Atmospheric Environment Service, indicated that preparedness should be geared to an early fire season across the province. It looked much like the 1980 season, with a high fire hazard building in Northwestern Ontario in late April. The results were as ex-



Left: Metres and metres of hose must be inspected, cleaned and dried out on a tower following firefighting use.

Above: Topographical and weather information is vital in planning how a fire is to be fought.

Right: All fire unit crews receive intensive training. Safety techniques receive high priority during instruction.

pected. Forest fire activity began in the Northwest and North Central regions with fire behavior corresponding to drought conditions. However, being prepared enabled fire management staff to cope with a dangerous situation similar to the 1980 one, and yet maintain a relatively low area of burn.

Following a brief period of relief during June, dry warm weather persisted in the four northern regions through to late August. The 1981 forest fire season resulted in 1,656 fires which burned a total of 179,473 hectares (compared to 1,779 fires and 558,468 hectares last year). Within the area of intensive protection, the burned area was held to approximately 50,587 hectares, compared to 554,583 hectares in 1980.

Ontario's ever-increasing use of helicopters for fire management work has brought about a need for clearer guidelines on acquisition, control and utilization. As a result, a Helicopter Administration, Management and Operations Manual has been developed for the 1982 fire season. As well, Ontario is chairing a national sub-committee on Helicopter Safety.

Fire Prevention Receives Added Attention

A major thrust to upgrade the visibility of Ontario's fire prevention program was initiated in the spring of 1981. This is a continuation of the development of a high-profile, effective prevention campaign.

As well, funds were made available for the hiring of seasonal prevention technicians to deliver and maintain prevention activities in each region.

A Provincial Prevention Committee made up of district, regional and provincial representatives was formed to develop a standard prevention planning manual, review and approve new prevention material and to develop an evaluation process for the present prevention program.

A major fire prevention media campaign was carried out between May and August of 1981. It was designed to go beyond the normal media program and to assist in preparedness efforts for the 1981 fire season which was, at that point, expected to be as devastating as the 1980 season.

Great Lakes Forest Research Centre: Fire Research Co-operative Projects

Ontario continued to support Canadian Forestry Service research programs in prescribed burning and fire behavior. Last year, two technicians were hired under the joint federal-provincial DREE program to assist in project work.

Left: Refuelling during a fire flap. Helicopters are used in initial attack.

Right: MNR fire crew member checks pack.

Below: Checking a print-out from infra-red equipment which pinpoints the location of fire edge and hot spots.

Fire Management Improvement Project

The Fire Management Improvement Project was well under way in 1981-82. Policy Statements of Intent and Direction were developed and circulated for review and approval. A Forest Values project was established to develop a standard value appraisal system for use in Fire Management Planning. Fire Control Organization concepts were stated and discussed.

A trial of some of the concepts was undertaken in 1982. Staff visited Quebec, Alberta, the Northwest Territories and British Columbia to study other approaches to fire management. In particular, legislation, policy, organization and co-operative involvement were discussed. These visits were extremely useful and will be continued with other provinces. A fire management planning system for use at all levels of the organization is being prepared.

New Personnel Manual

A Forest Fire Personnel Standards Manual listing the experience and training requirements of over 40 different fire operation positions was developed prior to the 1981 fire season. This manual is currently being used to roster all forest fire personnel in Ontario. Information gained will be used to set establishment levels for all positions and as a guide for the scheduling and development of training programs.

Co-operative Fire Control with Industry

A major initiative in 1981 was increased involvement of the forest industry in fire control. Concern generated within the industry by 1980 losses resulted in a request through the Ontario Forest Industry Association for such involvement.

A group of industry leaders and senior MNR staff then developed a strategy which led to several new policies. Among these was involvement of forest industry workers in initial and sustained attack, a program to train industry people in fire control methods, a modified pay scale for trained industry firefighters, and a plan for increased and improved involvement beyond 1981. Industry involvement in 1981 was excellent, with companies committing major manpower and equipment resources to several fires.

Communications Improvements

A major project for 1981 was the development of a specialized kit comprising radio units which operate on a group of VHF (low band) frequencies that are close to, but separated from, the conventional radio frequencies used in Ontario's radio network. The kit allows a fire radio system to set up on these frequencies in such a manner that up to five divisions will each have a "private" channel on which to operate, interference free. A sixth channel is reserved for use to access an "on fire repeater unit" which will allow communications between fireline and base camp when necessary.

Lightning Locator Again Provides Pertinent Data

The LLP lightning locator in Northwestern Ontario once again proved useful during the 1981 fire season. Maps showing lightning strikes were produced daily and used experimentally by fire operations staff. A number of new uses were implemented to enhance initial attack capabilities including detection routing changes and resource positioning. The system operated smoothly last year with few problems.

During the 1982 fire season, the lightning locator system became fully integrated into the Northwest Region daily fire operations. Some new software changes will be tested. The system is expanding eastward, to cover the North Central Region.

Ontario Assists in Fire Management Elsewhere

Ontario was able to provide some assistance to other provinces in 1981. This included sending:

- a project Fire Communications Kit together with a team of technicians to Alberta's Swan Hills fire in mid-August;
- 50 pumps to British Columbia in mid-August;
- four Ontario Provincial Fire Teams to Alberta in mid-September;
- six 11-man suppression crews and some suppression equipment to Alberta following the fire teams; and
- a supply of aerial ignition "ping-pong balls" to New Brunswick.

Left: Trees burnt out by the huge Thunder Bay 46 fire in 1980 provide a grim monument.

Above: Helicopter brings personnel and equipment in to edge of fire.

1981-82 Aviation and Fire Management Program Highlights

- A total of 1,656 forest fires burned 179,473 hectares of Ontario forest land.
- An additional 30 unit crews were added to the normal complement of 145 crews.
- In 1981, seven fixed-wing aircraft and seven helicopters were added to our aircraft complement. Most of these were contracted or leased.

Outdoor Recreation Management

Parks and Recreational Areas

Promoting our Parks

In May of 1981, the Ministry of Natural Resources launched a tourism marketing campaign for Ontario's 132 provincial parks and recreational areas. Utilizing a combination of advertising, improved customer services and several new consumer-oriented publications, the Ministry promoted parks as desirable vacation areas where a variety of outdoor activities could be pursued.

Provincial parks attract between five and six million visitors each year, but most parks are by no means overused.

Radio spots on the majority of Ontario stations and newspaper ads in dailies and weeklies highlighted the natural attractions and recreational experiences awaiting the prospective park visitor.

Despite poor weather in the province during most of the month of August, Ontario's provincial parks realized an increase of 5.4 per cent in attendance and 4.2 per cent in revenues.

To ensure that information demonstrating the diversity of parks opportunities was readily available to visitors, a series of new publications was produced. Outstanding among these publications was the parks' flagship brochure, *Ontario Provincial Parks – Yours to Discover*, which was distributed throughout the province. Another important publication was *Canoe Routes of Ontario*, a guide to the canoeing resources of the province, which was distributed by a major Canadian publisher and has attained a high volume of sales throughout North America.

Three major film productions were also completed and released during 1981. *Natural Journey* shows the range of recreation offerings and landscapes in and around provincial parks. It has been translated into French, German and Dutch and has gone into worldwide distribution.

Snow, a short film promoting winter activities in provincial parks, won first prize in the promotional film category at the Bijou Awards Ceremony sponsored by the Academy of Canadian Cinema and the Canadian Film and Television Association.

Camping Ontario was produced collectively by MNR, Ontario Private Campground Association, Parks Canada, the Ministry of Tourism and Recreation, and many other private sector groups involved in the camping industry. The film will be used to promote all facets of the camping industry in Ontario.

Film distribution was enhanced with the production of a promotional poster. In addition, a complete set of parks and recreational areas films was deposited in each of the 15 Ontario Regional Library Systems, enabling our films to be available in almost all cities and towns throughout the province.

Quetico Provincial Park Master Plan Review

The master plan for Quetico Provincial Park received Ministerial approval in September, 1977. Through the approval of a master plan the government expresses its intentions, in the form of policies, as to the manner in which a park will be planned, developed and managed over a period of time. The periodic review of a master plan is an important stage in the park planning process as it provides an opportunity not only to evaluate progress made, but also to ensure that the plan remains current and relevant.

During the summer of 1981, the Ministry of Natural Resources initiated the first review of the Quetico Provincial Park Master Plan. Ministry staff were assisted in this task by the Ontario Provincial Parks Council, a citizen's advisory committee to the Minister of Natural Resources.

Left: During a nature course, students take a closer look at pond life.

Below, left: MNR naturalist tells the twig's story during a winter hike.

Below, right: Parks offer visitors scenic experiences in all seasons.

The Parks Council and Ministry staff travelled to Atikokan, Fort Frances, Thunder Bay and Toronto during August, September and October to meet with members of the public interested in the Quetico review. An informal open house, followed by a public meeting, was held in each location.

The open house segments were hosted by Ministry staff who answered specific questions concerning the park, and provided any additional information requested by those in attendance. Displays were also set up to provide pertinent information related to the review of the park master plan. The public meetings, which followed on the same evenings, were sponsored by the Parks Council. During the meetings the Council received and recorded written and verbal submissions on any aspect of the master plan and the management of Quetico. In addition to participating in the open house or meetings, interested members of the public were also invited to forward comments expressing their views directly to the Chairman of the Parks Council.

In total, the Council received some 1,400 submissions which identified some 94 park management issues. On this basis, a series of recommendations was formulated and forwarded to the Minister of Natural Resources for his consideration. The Minister's response will be used in the preparation of a revised master plan.

The Task Force on Parks System Planning

In order to synchronize parks system planning and land use planning, the Assistant Deputy Ministers for Northern and Southern Ontario requested in March, 1981, that a Task Force on parks system planning be established.

Between April and July 1981, the task force held meetings with representatives of both the parks and lands programs across the province. These meetings helped to identify data from the regional parks system planning process required for input to the task force report.

The report was completed in September, 1981, and presented to senior management in early October. The Minister tabled the report in the legislature on March 12, 1982. At the same time, he introduced other parks and land use planning documents including a "Policy for Interim Uses in Candidate Parks".

Copies of the report have been widely distributed and are also available in all district and regional offices, as well as in university libraries and major public libraries across the province.

Of more general interest, a summary booklet entitled *Background Information on Land Use Planning and Parks System Planning in Ontario,* was also released by the Minister and has been given wide public circulation.

Parks' Market Research

Market research for the provincial parks has become a significant area of emphasis in recent years. During the past year, projects have been undertaken to develop a research strategy for the marketing emphasis, to establish initial market segmentations and to evaluate promotional activities. Collection and analysis of market-related information is an important continuing responsibility.

Aquatic Resources Management in Provincial Parks

The quality of the waters in our provincial parks and the protection of internal parks aquatic ecosystems are important to the health and safety both of parks users and natural inhabitants. During 1981-82, MNR completed phase one of a study to develop methods of assessing both water quality and the aquatic ecosystems. These assessments will assist in the formation of phase two of this exercise, which includes policy and guidelines for planning and management of these important park resources.

Wildlife Management Policy

A wildlife management policy for provincial parks was approved during 1981-

Above: Breathtaking vistas like this draw millions of campers and visitors to Ontario provincial parks annually.

Left: Canoeing is one of the most popular pastimes on Ontario lakes and rivers.

Right: Editing MNR's Bijou award winning film, Natural Journey.

82 by the Ministry. The policy provides guidelines for the preparation of wildlife management plans which will be developed utilizing a field team management approach. Each plan will be oriented to the particular park to provide wildlife-based recreational opportunities consistent with the objectives of that park. Public safety, health of indigenous wildlife populations and adequate wildlife habitat will be among the considerations in the planning.

Volunteer Program Established

A pioneer policy formally establishing a volunteer program for provincial parks was approved in December, 1981. The policy will guide the establishment of a volunteer program with benefits for both the volunteers and the Ministry. Volunteers derive satisfaction and experience from contributing to the achievement of the parks' program objectives and their efforts will complement the work carried out by MNR staff. Volunteer activities will include diver orientation and safety at Fathom Five Provincial Park, canoeing instruction at several other parks and other skill or survival oriented assistance.

Municipal Parks Assisted During Year

During 1981-82, 37 municipalities throughout the province received grants in excess of $600,000 under The Parks Assistance Act to establish new parks or further develop existing ones. More specifically, the grants—which are matched by the municipalities—were used to provide beach areas, campgrounds, boating facilities and other improvements to enhance local park facilities.

During the year, 14 new parks were established under the Act bringing the total number of approved parks to some 240 since inception of the program in the early 1960s.

Customer Service Training for Parks Staff

As part of the development of a marketing and tourism initiative, most provincial park managers received training last year to enable them to function as hospitality course instructors within their respective regions. A provincial course was held at the Frost Centre to initiate the co-ordinated training effort and to develop specific guidelines for passing on customer relations training skills to front-line staff within the parks.

1981-82 Provincial Parks Program Highlights

- Michipicoten historical class provincial park (on Lake Superior) was added to the system bringing the total to 132 provincial parks.
- A total of 40,000 campsite reservations were processed.
- A 5.4 per cent increase in park attendance was experienced.
- To maintain the high level of health and safety in provincial parks, 30 park sanitation audits and six park sanitation seminars were conducted.
- The Task Force on Parks System Planning proposed more than 240 candidate parks during MNR's District Land Use Planning program.

HOPTOIT

Left: Bottle-feeding moose calves at the Wildlife Research Station in Algonquin Park.

Wildlife

Wetland Discussion Paper Receives Public Response

Wetlands are a unique natural resource, storing and purifying water, helping control floods, providing timber products and wild rice, several game species and opportunities for outdoor recreation. In September, 1981, a discussion paper, *Towards a Wetland Policy for Ontario* was released. The paper was produced to solicit opinions and ideas concerning wetlands and their management. About 450 letters were received, and this public response provided many ideas for wetland management.

Emphasis on Small Game and Waterfowl Management

Grouse, bobwhite quail, Hungarian partridge, pheasant, woodcock, squirrel, rabbit and hare are an important part of Ontario's wildlife resource. In addition to hunting, small game species provide many outdoor viewing opportunities. Approximately 60 per cent of all recreational hunting and hunter expenditures are in the small game category, and account for about $40-million annually.

In 1981-82, policy development for small game continued and will be reflected in the province's strategic land use plans. Small game management activities last year included population surveys, habitat management, enforcement, user surveys and operation of provincial wildlife management areas. Development of an extension program to increase public involvement in wildlife management activities was initiated and is expected to benefit small game populations.

Also in 1981-82, we continued to develop waterfowl management strategies with the federal government, and established our first agreement with Ducks Unlimited to develop the waterfowl production capabilities of Hullett Wildlife Management Area.

Reintroduction of Peregrine Falcons Major Effort in Nongame Program

In 1981-82, peregrine falcon releases were undertaken for the fifth consecutive year in Algonquin Park. The falcons were also released for the first time in downtown Toronto, from the Ministry's Whitney Block headquarters. A total of 16 birds (obtained from the Canadian Wildlife Service) were released in both projects, bringing to 52 the number of peregrines released since 1977. At that time, the peregrine, which is protected under Ontario's Endangered Species Act, was considered to be no longer extant in Ontario. It is hoped that the reintroductions will help to establish a breeding population. A spring survey for peregrines was undertaken in Algonquin Park in 1981, in co-operation with the Federation of Ontario Naturalists and the Elsa Wild Animal Appeal of Canada. It was encouraging to note that a banded peregrine, released in a previous year, was sighted.

Surveys and the preparation of status reports are components of the nongame program's work. These were completed in 1981 for a variety of species. The Ministry continued to co-operate with the Committee on the Status of Endangered Wildlife in Canada which is identifying rare, threatened and endangered Canadian species.

Update on Deer, Moose and Black Bear Programs; Trapper's Course

Ontario's central deer herd continued to increase under the new deer management program, even through the relatively severe 1981-82 winter. Selective harvest continued to have a pronounced effect in providing for an increase in prewinter deer numbers. The new supplementary feeding program, much of it conducted by the public, pulled many yards successfully through a period of severe cold and deep snow. Meanwhile, the moose harvest remained relatively unchanged as the public continued to discuss and debate proposed changes in the hunt.

Black bears responded to a poor wild berry crop by becoming nuisances to farmers and city dwellers, and Ministry staff dealt with hundreds of nuisance bear complaints.

A major development in fur management was the final stage of implementation of the Fur Harvest, Fur Management and Conservation Course. All novice trappers were required, as of July 1, 1981, to attend this course being offered in community colleges. These trappers of the future will be better versed in humane methods of trapping, safety and survival on the trapline, and care of the fur resource and its products. Experienced trappers are also encouraged to take the course to improve their skills.

Wildlife Extension Activities Cover Wide Range

Working in co-operation with the Canadian Wildlife Federation, the Wildlife Extension staff produced a button and T-shirt transfer for use during National Wildlife Week last year. The Wildlife Series for schoolchildren and production of a wildlife professional development day program for teachers were initiated during the year.

Several popular wildlife publications were revised, and some brochures on nuisance animals produced. During the year, first drafts of papers on private land management, information and education policies and program strategies were prepared.

May be Possible to Increase Wild Rice Production in Future

Wild rice is distributed throughout much of Ontario, but the major stands are in the northwest, particularly on and around Lake of the Woods. Production varies greatly from year to year, primar-

ily because of annual changes in water levels. Production in 1981-82 was average.

A co-operative study (Treaty No. 3, Department of Indian and Northern Affairs and the Ministry of Natural Resources) under the direction of the Indian Commission of Ontario was undertaken during 1981-82 to assess the influence of water levels and other factors on the production of wild rice in Lake of the Woods, Rainy Lake and associated water bodies. Findings of this report are now under consideration. The moratorium on the issuance of additional harvesting licences to non-native people remained in effect in 1981-82 to give native people a further opportunity to improve their position in the industry.

The Ministry would like to see greater production of wild rice to increase economic benefits to the residents of Ontario. A higher level of production could be obtained through use of mechanical harvesters, control of water levels (where feasible) and the cultivation of rice in areas where it does not now occur.

The Ministry has developed a series of policies for the development and management of the wild rice industry in Ontario.

New Design Lab Helps in Tuning in on Animals

The need to study free-ranging wildlife necessitated the research and development of electronic telemetry devices. An electronics design laboratory has been established to this end, and in 1981 several products were completed. Radio transmitters that relay location, activity, temperature and mortality of the animal have been considerably reduced in size. High reliability is stressed. Comfort of the collars for animals is achieved through gentle contours, and conformal fitting. Synthesized frequency scanning receivers are used for automatic searching of animals.

Above: Young peregrine falcon is one of 16 released in 1981-82 re-establishment program.

Above, right: Testing a humane trap—a foot-snare type developed by MNR staff.

Below, right: MNR conducts courses to assist trappers to improve their skills.

Prototypes of a remote recapture collar were built and tested in 1981. Tests on live animals were conducted in 1982.

Miniature ultrasonic fish transmitters were developed and placed on fish in the spring of 1982. These transmitters will transmit 800 metres for 10 to 14 days.

Results of Rabies Vaccine Wildlife Research Program Encouraging

During 1981, over 1,833 people were treated after exposure to rabies in Ontario. Once again, Southern Ontario had the highest incidence in Canada: a reported 1,736 rabies cases in wildlife and domestic animals. Since foxes and skunks are the primary source of rabies infection, the Rabies Research Program is aiming at control in these species with an oral vaccine. Development and testing of a vaccine contained in miniature capsules placed in a hamburger meatball was the major endeavor last year. Results were very encouraging: 30 to 50 per cent of foxes developed immunity during lab trials. However, this percentage must be raised before a large-scale field trail is launched.

The method developed to deliver the vaccine appears effective. During 1981-82, results from the large bait tests near Wingham and Owen Sound showed that our aerial bait delivery system was capable of reaching over 70 per cent of foxes and 50 per cent of skunks in both open farmland and heavily forested areas. Although no vaccine was hidden in the meat, the baits did contain tetracycline which was later traced in the animal's teeth if a bait was eaten. Because of the progress in 1981-82, Ministry staff planned to conduct a pilot field trial in the fall of 1982 to test a rabies vaccine using wild foxes they will equip with radio devices.

New Research on Ticks as Threat to Moose

Although ticks are not normally a serious health problem to their wildlife hosts, the unusually large numbers of ticks on moose (up to 80,000 ticks on one animal) has led to research to see if winter ticks endanger the life of a moose.

Tick-infested moose react by grooming and rubbing their winter hair. It is suspected that bare patches observed on dead moose in the wild are the result of excessive grooming and rubbing stimulated by tick irritation. Illness or death may occur from an excessive loss of energy through the poorly insulated bare patches.

Present studies are directed to determine if this is true and, if so, to recommend management practices to avoid the problem.

MNR Team Studies Ducks in Northern Ontario

Much of the effort of the Upland Game

and Waterfowl Unit in the past few years has been devoted to studies of the breeding biology of goldeneye ducks.

In 1981, this work was broadened to include comparisons with other species of ducks breeding in Northern Ontario. In particular, much effort has been devoted to understanding the breeding strategies of ducks in the Elk Lake/Cochrane areas. Specimens were collected to examine weight changes through the spring and early summer, the fat content of laying ducks, the speed of yolk development in the ovaries, and the quality of the waters on which the birds nest.

The productivity studies of Canada geese in the Hudson Bay Lowlands were refined with the inclusion of snow cover studies. It was found that deep snow along the Hudson Bay coastal area likely delayed nesting and reduced production. This was confirmed with photographic surveys in July, 1981, when the proportion of goslings in the flocks was found to be well below those of 1979 and 1980.

Learning More About White-Tailed Deer

The white-tailed deer unit was concerned with three main topics of research in 1981: evaluation of harvest, analysis of snow cover and implementation of vegetation surveys.

Hunting activities and kill were monitored on an area representative of Eastern Ontario deer range in an attempt to determine the effects of the selective harvest system. Data collected for the past 20 years from the same 235 kilometre area provided a yardstick for comparison. Results of the 1980 hunt were analysed to provide a basic format for future studies.

Snow cover records from a province-wide network of snow stations were examined weekly. Efforts were begun to computerize existing records for rapid evaluation, storage and retrieval of snow data. This new system should provide managers with better information with which to assess current snow cover and its effect on deer.

Field investigations to study the effects of deer on woody vegetation were only partially completed due to inclement weather during the survey periods. Several logging operations were inspected in an attempt to determine the long and short term benefits to wildlife. Deer activity was observed in the experimentally cut cedar swamps and a management report was produced for distribution within the Ministry.

1981-82 Wildlife Program Highlights

- The 1981 fur harvest amounted to 980,127 pelts with a total value of $18,965,648.
- MNR's hunter education program trained 39,625 students in 1981.
- In 1981-82, 16 peregrine falcons were released, bringing the total released since 1977 to 52.

Fisheries

Reconstructed Hill's Lake Station will be Major Fish Supplier

Hill's Lake Fish Culture Station at Kirkland Lake was reconstructed and completed in 1981. Almost one million eggs, mostly brook trout, were introduced in December. The station was designed to be a major brood stock station for the province, and will supply brook trout and lake trout as well as first generation splake. Work was initiated on the design of a new fish culture substation near North Bay (eight kilometres from the existing North Bay station) and planning begun for the reconstruction of the Tarentorous Fish Culture Station at Sault Ste. Marie. A site was purchased, in 1981, for the development of a Fish Culture Station at Harwood near Rice Lake. Identification was carried out through aerial thermography followed by ground proofing. This hatchery should support 750,000 salmonids annually, primarily for planting in Lake Ontario.

Above: Lake Erie fishermen carefully winch in their seine nets.

Left: Ontario has the largest freshwater commercial fish catch in Canada. Lake Erie provides 75 per cent of the Ontario annual catch.

Splake Success Leads to Increased Stocking Program

Several selected inland lakes will receive future plantings of first generation splake. This species demonstrates better survival and growth than either lake trout or brook trout in similar situations. The splake stocking is in addition to the continuation of lake trout backcross stocking in Lake Huron.

Brood Stocks to be Developed for Great Lakes

An emphasis will be placed on the use of discrete stocks for rehabilitation stocking, especially in the Great Lakes. Rather than relying on continued wild egg collections, appropriate brood stocks will be developed accordingly.

New Stocking Assessment Program

Strategy and guidelines for a provincial fish stocking assessment program were in the process of being developed in 1981-82. Once in use, this program will generate the necessary information to make more efficient use of our hatchery production in the future.

Native Brown Trout Doing Well at Hatchery

In fall, 1981, 290,000 native brown trout eggs were collected from the Ganaraska River as were eggs from the Sydenham River. The eggs are currently at Codrington Fish Culture Station and are growing well. They will be available for stocking as yearlings in the spring of 1983. Some of the fish will be returned to the Sydenham River. A pathogen-free brood stock of brown trout is being developed and the resulting fish will be

held at Codrington. Modifications were begun last year to provide for egg isolation and brood stock holding facilities at Codrington.

Commercial Fisheries

Ontario has the largest freshwater commercial fish catch in Canada, totalling nearly 60 million pounds with an estimated ex-vessel value of $25-million. Commercial fishing is carried out primarily in the Great Lakes, but a substantial amount is also carried out in Northwestern Ontario. Lake Erie is the greatest producer of freshwater fish, with over 75 per cent of Ontario's catch: 30 million pounds of smelt; eight million pounds of yellow perch; and approximately two million pounds each of yellow pickerel and white bass.

In co-operation with the Ontario Council of Commercial Fisherman, the Ministry negotiated a new administrative system for the commercial fishing industry in 1981-82.

The co-operation between the industry and government was encouraging, and it is hoped that there is now a basis for a new approach to commercial fishing.

Ontario's baitfish industry produced a record 14 million dozen baitfish worth an estimated $5-million at the wholesale level last year. The demand by anglers and the export market in the United States are factors in the expansion of this industry, even though the number of bait fish harvesters has remained relatively constant.

Community Fisheries Program

The Minister announced during 1981-82 that the Fisheries Branch would embark upon a Community Fisheries Involvement Program. This new program is being undertaken with great enthusiasm, and will get the public directly involved in fisheries management projects. For example, a great deal could be done on habitat rehabilitation and enhancement activities such as a stream bank stabilization, and production of streamside hatcheries and rearing stations. Negotiations were initiated with such groups as the Bluewater Anglers Associations and the Ontario Steelhead and Salmon Fishermen, and the latter are very interested in rainbow trout rehabilitation and enhancement programs. The Bluewater Anglers Association in Sarnia is also interested in increased stocking of rainbow trout, and is establishing its own hatchery with aid and advice from the Ministry. Strict controls, of course, are necessary to avoid community conflicts with the Ministry's fisheries management programs. Pro-

Top: MNR researcher surfaces after checking out lake trout spawning beds in Lake Ontario.

Above: Refurbished Hill's Lake Fish Culture Station at Kirkland Lake will soon be a major supplier of brood stock.

jects proposed must have a high probability of success and fish stocks must be free of disease.

Symposium Held on Fish Stocks

One good way of bringing together all the know-how available to deal with fisheries problems is to invite the world's experts to join in a workshop discussion. During the past year, Ministry scientists have been busy writing up their many contributions to just such an international symposium convened September, 1980 at Alliston, Ontario, by the Great Lakes Fishery Commission to consider how important the stock concept is to fishery management. It showed conclusively that fish populations *are* comprised of many stocks, each with its own, often inherited, characteristics. For some species, each stock must be separately managed for best results. Enough useful information on how to recognize stocks and what to do about them was exchanged between scientists from Canada, the U.S.A., Great Britain, Russia and Sweden to fill a large volume of the *Canadian Journal of Fisheries and Aquatic Sciences.* Judging by requests from all over North America for copies of the dozen or so papers MNR staff contributed (about a quarter of the total), this will prove to be a milestone in the evolution of fisheries management.

The Electrofishing Boat

In 1981, the Ministry successfully introduced a new weapon to its arsenal for sampling fish populations. A sophisticated 18-foot aluminum boat loaded with electrical gear capable of attracting and stunning fish of all sizes in most provincial waters was successfully field tested in both Northern and Southern Ontario. It gives Ministry biologists a much needed tool for accurately censusing small fish which normally escape conventional methods, and will help in stock assessments, mark and recapture studies, environmental impact assessments and similar work.

1981-82 Fisheries Program Highlights

- Commercial fishermen harvested $31.8-million worth during 1981, an increase of $8.2-million over last year.
- MNR fish hatcheries produced 6,150,000 fish this year and stocked 2,680,666 fish into the Great Lakes.
- Resident and non-resident anglers caught and retained more than 97 million fish.
- To date 3,100 water samples from 1,900 sites have been analysed to determine ability to buffer acid rain.
- In 1981-82, Hill's Lake Fish Culture Station was reconstructed at a cost of approximately $5-million.

Fish in net about to be tagged and released to provide information for fish study.

MNR/MOE Acid Rain Program

The year 1981-82 was marked by rapid development of detailed plans to coordinate the many acid rain programs of the Ministries of Environment and Natural Resources. Both have major concerns about the effects of acid and other airborne contaminants on Ontario's waters and their fish resources. Both have worked intensively on particular aspects of the problem—Environment to document effects on water chemistry and the lower forms of life, and MNR to assess effects on fisheries. Intensive discussion and analysis of the problem by a technical advisory group (the Aquatic Effects Working Group of the Acidic Precipitation in Ontario Study), indicated that the programs would be increasingly integrated beginning in 1982.

Administration

MNR Prepares For the Office of the Future

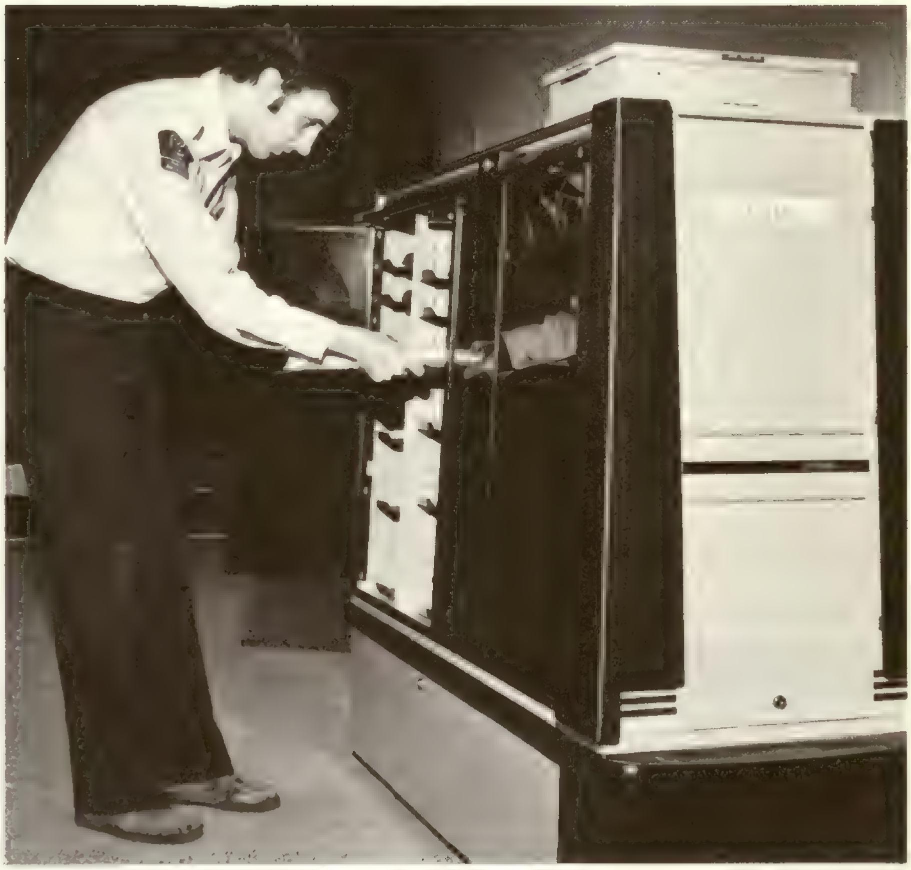
In 1981-82, the Administrative Technology Steering Committee and the Administration Division awarded a project to Trigon Systems Inc. for an in-depth evaluation of the feasibility of introducing integrated office systems into the Ministry. The project will be both a study of the existing office systems and a pilot for the introduction of office automation. Experience gained from the pilot project will assist in the planning for introduction of office automation on a phased basis within the Ministry.

Regional Word Processor Installed in Cochrane as Pilot

Following studies to ascertain the potential of introducing new office technology into field offices, a word processor was installed in the Cochrane office last fall. The equipment processes internal documents and has the potential to electronically transmit to, and receive documents from, a word processor in Main Office. When the project is evaluated, and if it is shown to improve local document preparation and information exchange between field and main office, the introduction of similar equipment in other field offices will be encouraged.

Main Office Mailmobile Service Saves $20,000 Annually

Following the resignations of three mail clerks and a messenger early in 1981, the Ministry decided on a trial run with an automated mail service in Whitney Block. In February, 1981, two mailmobiles, nicknamed "Herbie" and "Rosie", went into service and quickly obtained a place in the daily routine. Following invisibile chemical tracks as they beeped along the halls, the machines delivered mail five times a day on six floors of the building. In the past, the mail was only delivered three times a day. The mailmobiles, which cost about $28,000 each, proved to be a saving of $20,234 per year when purchase cost is compared to salaries that would have been paid to the staff they replaced. Though the mailmobiles required human assistance to use the elevators, the debut was considered successful enough to warrant the addition of a third mailmobile to the fleet.



Most recent addition to the MNR mailmobile fleet, "Timmy" gets set for his Whitney Block rounds.

MNR Study on Use of Biomass Energy to Heat Buildings

The report of a study undertaken by the Ministry in 1981-82 indicates that by substituting heating systems using biomass (forest waste and hybrid poplars) in public buildings, substantial dollar savings can be obtained. Four institutional and public buildings in the Eastern and Northeastern regions of the province were investigated in the study which was funded by the Ministry of Energy. The report stated that replacement of traditional fossil fuel heating systems by conversion to biomass heating has a very short pay-back period—which reduces the capital cost significantly. As well, a program to introduce hybrid poplar plantations on agriculturally uneconomic farmlands in Eastern Ontario is currently under way. This would ensure a future fuel supply for

Total MNR Staff

March 31, 1982	Regular	Unclassified	Total
Main Office	948	492	1,440
Field	3,354	1,073	4,427
Total	4,302	1,565	5,867

biomass energy requirements. Planning is now under way for a pilot project that will convert one of the buildings used in the study to a biomass heating system.

Conversion of Ministry Vehicles to Propane Fuel Systems Continues

An additional 33 MNR pickup trucks were converted to propane fuel power in 1981-82, bringing the total of converted vehicles up to 84. Data comparing the fuel efficiency of converted trucks with that of conventional gas-powered vehicles shows a favorable cost result for the propane conversions.

Affirmative Action Program

The long-term goal of the Affirmative Action Program is to achieve equal opportunity for women Crown employees by raising and diversifying their occupational status.

To this end, during 1981-82, the Affirmative Action Program Office reviewed Ministry policies and practices, provided technical assistance to managers and employees, monitored over 300 job competitions and various manager-implemented program activities. It also coordinated an extensive program of regional delivery which involved approximately 70 Affirmative Action Representatives who planned and arranged meetings and training sessions across the province. Last year, four issues of the Affirmative Action Newsletter were produced.

Highlights included the following:

- Some 70 developmental assignments were provided to female employees (this was far in excess of Management Board's requirements).
- A total of 82.4 per cent of targets for the hiring and promotion of women in under-represented classifications were met.
- A number of important "first-evers" were achieved, including the first female Assistant Deputy Minister, Administration; District Manager; Acting Director of the Office of Management Planning and Analysis; Supervisor of Manpower; Mineral Resources Supervisor; Engineering Service Technician and Darkroom Foreman.

Women in the ministry are setting their sights higher with the help of affirmative action.

Ministry of Natural Resources Statement of Budgetary Revenue and Expenditure for the Year Ended March 31, 1982

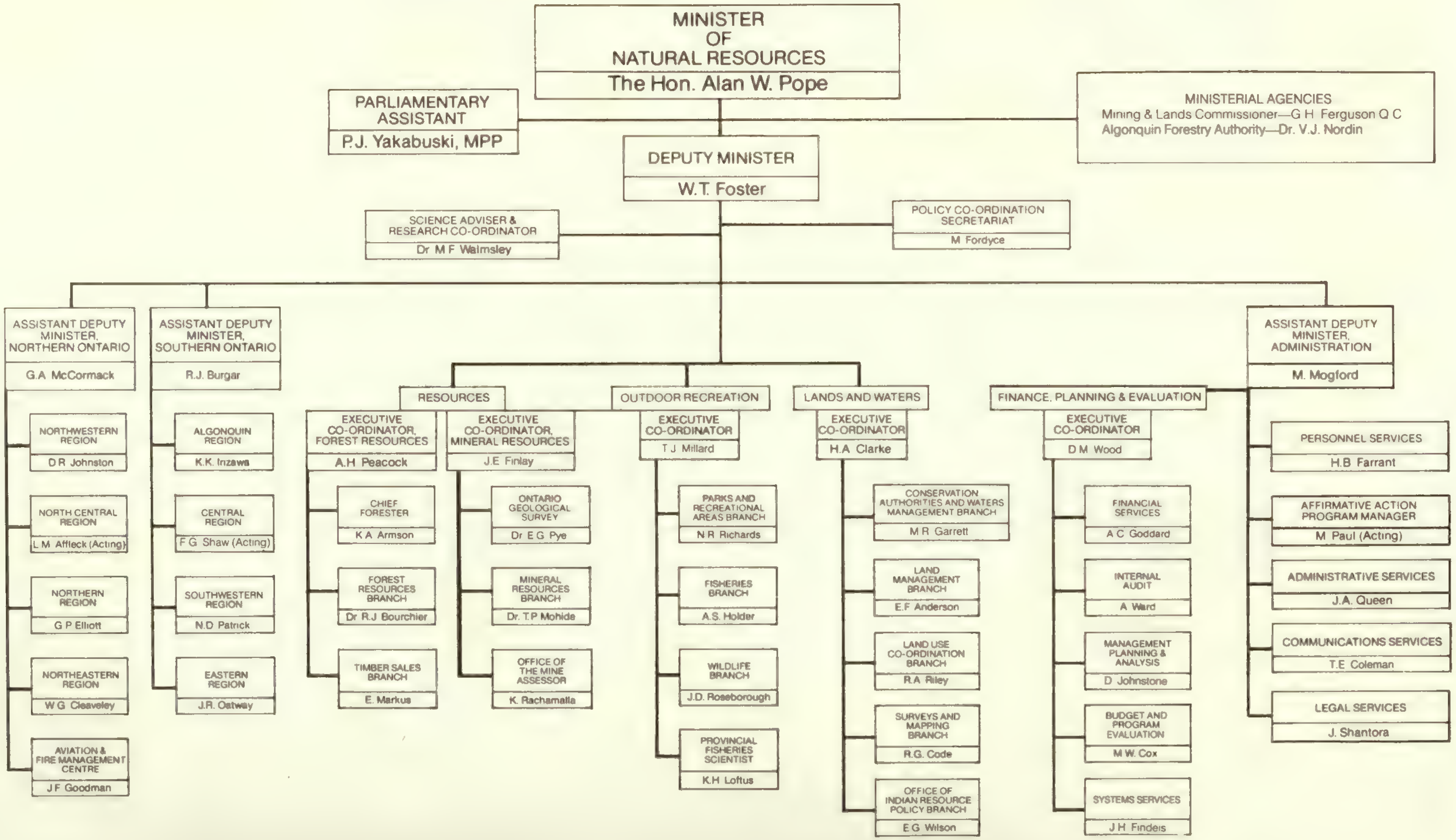
Ministry of Natural Resources Statement of Budgetary Revenue for the Year Ended March 31, 1982

Ministry Administration Program	**($thousands)**	**($thousands)**
Reimbursement of Expenditures		
Other	68	
Sales and Rentals	1,767	
Recovery of Prior Years' Expenditures	76	
Other	31	
Total for Ministry Administration		1,942
Land Management Program		
Royalties		
Water Power	20,604	
Timber Area Charges	4,438	
Mining		
Sand and Gravel	1,213	
Acreage Tax	538	
Fees and Licences	610	
Reimbursement of Expenditures		
Government of Canada	512	
Other	697	
Sales and Rentals	1,948	
Sale of Crown Land	2,247	
Recovery of Prior Years' Expenditures	573	
Total for Land Management		33,380
Outdoor Recreation Program		
Reimbursement of Expenditures		
Government of Canada	1,721	
Other	316	
Recreational Areas	6,940	
Fish and Wildlife	14,267	
St. Lawrence Parks Commission	3,683	
Recovery of Prior Years' Expenditures	18	
Sales and Rentals	443	
Royalties	1,154	
Total for Outdoor Recreation		28,542
Resource Products Program		
Mineral Management		
Profits Tax	55,412	
Royalties	688	
Fees and Licences	366	
Sales and Rentals	392	
Forest Management		
Stumpage	38,098	
Forest Products	216	
Stock Production	596	
Reimbursement of Expenditures		
Government of Canada	10	
Other	36	
Sales and Rentals	348	
Royalties	179	
Total for Resource Products	96,341	
Resource Experience Program		
Frost Centre Facilities	341	
Total for Resource Experience		341
Total Budgetary Revenue		160,546

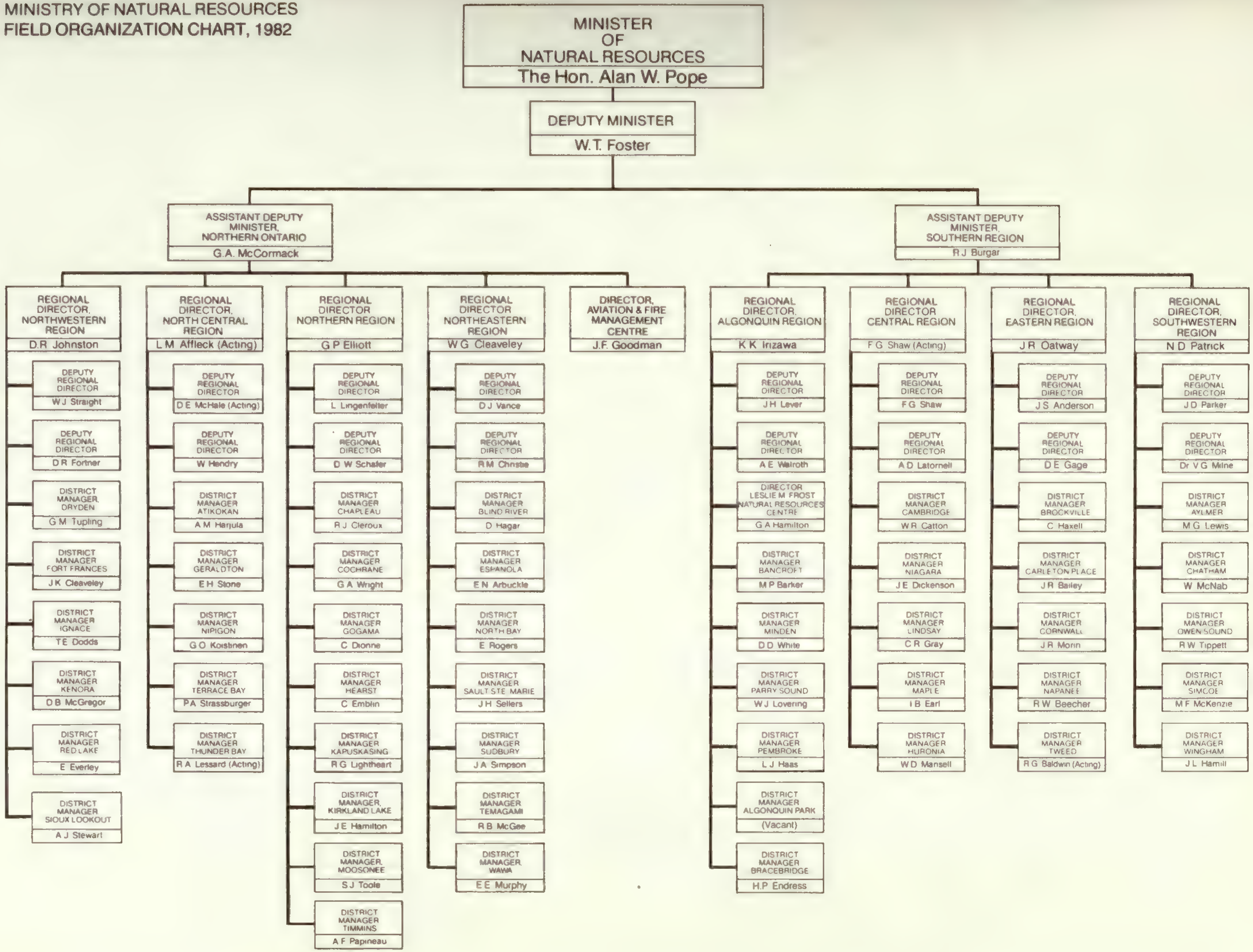
Ministry of Natural Resources Statement of Budgetary Expenditure for the Year Ended March 31, 1982

Ministry Administration Program	($thousands)	($thousands)
Main Office	4,230	
Financial Services	2,466	
Supply and Office Services	3,707	
Personnel Services	1,354	
Information Services	1,076	
Systems Development Services	207	
Legal Services	765	
Audit Services	685	
Field Administration	28,894	
Total for Ministry Administration		43,384
Land Management Program		
Conservation Authorities and Water Management	42,896	
Aviation and Fire Management	42,952	
Extra Firefighting	16,999	
Land Management	15,550	
Resource Access	4,040	
Surveys and Mapping	7,768	
Total for Land Management		130,205
Outdoor Recreation Program		
Recreational Areas	33,456	
Fish and Wildlife	36,625	
St. Lawrence Parks Commission	9,437	
Wasaga Park Community Project	4,711	
Total for Outdoor Recreation		84,229
Resources Products Program		
Mineral Management	15,434	
Forest Management	80,445	
Total for Resource Products		95,879
Resource Experience Program		
Junior Rangers	4,508	
Youth Corps (Experience '81)	3,819	
Leslie M. Frost Natural Resources Centre	1,197	
Total for Resource Experience		9,524
Total Budgetary Expenditure		363,221

MINISTRY OF NATURAL RESOURCES
ORGANIZATION CHART 1982



MINISTRY OF NATURAL RESOURCES FIELD ORGANIZATION CHART, 1982



Associated Agencies, Boards and Commissions

The Ministry of Natural Resources is associated with a number of agencies, boards and commissions. Each of these associations is based on natural resources management, but the Ministry's relationship with particular groups can vary.

Some relationships are informal. The Ministry is Ontario's official natural resources manager, and often participates informally in the activities of other government and private agencies to promote co-operation in the field.

Other relationships are more direct, through the existence of administrative or financial links between different groups and the Ministry. Some of these related agencies produce a separate annual report outlining their activities. A reader should refer to the specific annual reports of the following for more information:

- Algonquin Forestry Authority
- Conservation Authorities (Ontario had 39 Authorities during 1981-82)
- *Niagara Parks Commission
- *St. Clair Parkway Commission
- *St. Lawrence Parks Commission
- Provincial Parks Council

The following provides a brief description of the agencies, boards and commissions that are either financially or administratively associated with the Ministry, and produce no annual report.

Mining and Lands Commissioner

The Mining and Lands Commissioner exercises administrative and judicial functions under a number of statutes administered by the Ministry of Natural Resources. Last year marked the 75th anniversary of the creation of the office. During the fiscal year 1981-82, there were 55 hearings conducted by the Commissioner. Of these, 17 were under The Conservation Authorities Act; 36 under The Mining Act; one under the Mining Tax Act; and none under either The Beach Protection or Lakes and Rivers Improvement Acts.

Crown Timber Boards of Examiners

The Boards are made up of Ministry staff, and each year they set written and practical examinations in wood measurement. The Boards then recommend that successful examinees be issued with a Scaler's Licence by the Minister.

Game and Fish Hearing Board

The Board, comprised of not more than five members, who are appointed by the Lieutenant-Governor-in-Council, conducts hearings following the refusal by the Ministry of an application for a commercial hunting or fishing licence. The Board hears evidence, and delivers a written summary and recommendations to the Minister, who may or may not decide to issue the licence.

Geoscience Research Review Committee

The Committee was established in April, 1978, to advise the Minister on geoscience research priorities and the merit of research proposals which are submitted to the Geoscience Research Grant Program of the Ontario Geological Survey.

The 11-member committee is made up of representatives from industry, universities and government, and makes recommendations regarding research goals, provides peer review and recommends the awarding of grants to successful applicants. In the past year the program awarded 21 research grants totalling $418,289 to ten Ontario universities.

Ontario Geographic Names Board

The Board, which meets quarterly, has authority over Ontario's geographical names. Last year the Board approved 102 names. The names were disseminated to other agencies and become official for use on maps, charts, in gazetteers, property descriptions, and other documents. The Board makes decisions regarding contentious geographical names or those involving conflicts of interest.

Public Agricultural Lands Committee

Comprised of staff from the Ministry and the Ontario Ministry of Agriculture and Food, this committee reviews all applications for public lands required for agricultural purposes. During 1981-82, the committee dealt with 15 applications, most of which were from farmers wishing to enlarge their operations on Crown lands in northern and northwestern regions.

Left: The Mining and Lands Commissioner conducts a hearing. The 75th anniversary of the Commissioner's office took place in 1981.

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*Transferred to the new Ministry of Tourism and Recreation effective April 1, 1982.

ISSN 0383-5901
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